

What is claimed is:

1. A beam selecting apparatus of a digital TV receiver, the digital TV receiver having a switched beamforming means and a channel equalizing means, the beam selecting apparatus comprising:

a correlating means for calculating cross-correlation values with respect to previous known Field Sync signals and Field Sync signals of beams, the beams having energy larger than a predefined value among beams outputted from the switched beamforming means;

a channel profile extracting means for extracting multipath channel profiles of the beams by using the cross-correlation values;

an effective signal path searching means for obtaining the number of effective signal paths having values larger than a predefined threshold based on the channel profiles; and

a beam selecting means for selecting beams of a channel profile having the smallest number of the effective signal paths among the beams outputted from the switched beamforming means as an input beam of the channel equalizing means.

2. The beam selecting apparatus as recited in claim 1, wherein the beam selecting means selects a beam of a channel profile having the largest signal amplitude of the effective signal paths among the beams of the channel profiles having the smallest number of the effective signal paths.

3. The beam selecting apparatus as recited in claim 1, wherein the predefined threshold is determined depending on a capability of the channel equalizing means capable of compensating channel distortions of the multi-path signals.

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4. A beam selecting method of a digital TV receiver, the digital TV receiver having a switched beamforming means and a channel equalizing means, the beam selecting method comprising the steps of:

10 a) calculating cross-correlation values with respect to previously known Field Sync signals and Field Sync signals of beams, the beams having energy larger than a predefined value among beams outputted from the switched beamforming means;

15 b) extracting multi-path channel profiles of the beams by using the cross-correlation values;

c) obtaining the number of effective signal paths having values larger than a predefined threshold based on the channel profiles; and

20 d) selecting beams of a channel profile having the smallest number of the effective signal paths among the beams outputted from the switched beamforming means as an input beam of the channel equalizing means.

25 5. The beam selecting method as recited in claim 4, wherein the step d) selects a beam of a channel profile having the largest signal amplitude of the effective signal paths among the beams of the channel profiles having the smallest

number of the effective signal paths.

6. The beam selecting method as recited in claim 1,
wherein the predefined threshold is determined depending on a
5 capability of the channel equalizing means capable of
compensating channel distortions of the multi-path signals.